

12. The touch sensor of claim 1, wherein the diffractive grating is formed by etching, cutting, grinding, laser ablation, molding, or hot-stamping.

13. A touch display, comprising:

a display device;

a transparent acoustic substrate having a surface, the substrate forming a front surface of the display device;

an acoustic transducer; and

an acoustically diffractive grating disposed between the substrate and the transducer, the diffractive grating coupling acoustic energy within the acoustic transducer to an acoustic wave propagating along the surface of the substrate.

14. The touch display of claim 13, wherein the diffractive grating comprises an array of parallel elements.

15. The touch display of claim 13, wherein the elements are spaced from each other a distance equal to the wavelength of the acoustic wave.

16. The touch display of claim 13, wherein the diffractive grating is structurally distinct from the transducer and substrate.

17. The touch display of claim 13, wherein the diffractive grating is formed structurally integrated with the substrate.

18. The touch display of claim 13, wherein the diffractive grating is structurally integrated with the transducer.

19. The touch display of claim 13, further comprising:

another acoustic transducer; and

another acoustically diffractive grating disposed between the substrate and the other transducer, the other diffractive grating coupling acoustic energy within the other acoustic transducer to the acoustic wave.

20. The touch display of claim 13, wherein the substrate surface is substantially flat.

21. The touch display of claim 13, wherein the transducer comprises a piezoelectric element.

22. The touch display of claim 13, wherein the diffractive grating comprises a deposited glass frit.

23. The touch sensor of claim 22, wherein the glass frit is screen printed.

24. The touch sensor of claim 13, wherein the diffractive grating is formed by etching, cutting, grinding, laser ablation, molding, or hot-stamping.

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